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Before the
FEDERAL COMMUNICATIONS COMMISSION
Washington, DC 20554

In the Matter of	
Unbundled Access to Network Elements	WC Docket No. 04-313
Review of the Section 251 Unbundling Obligations of Incumbent Local Exchange Carriers	CC Docket No. 01-338

REPLY DECLARATION OF WILLIAM E. TAYLOR ON BEHALF OF VERIZON

SUMMARY

1. In my initial declaration, I used ARMIS report data to demonstrate that average revenue per special access line has fallen, and that the drop has accelerated since the ILECs received special access pricing flexibility. In this reply declaration, I refine those calculations and respond to criticisms.

2. First, I remove DSL revenue from the calculation and show that average revenue per voice grade equivalent fell about 21 percent per year during the pricing flexibility period and about 12 percent per year while under price caps. Thus average revenue per voice grade equivalent fell faster after pricing flexibility was in place.

3. Second, I explain that using fully distributed costs and accounting earnings to assess prices flatly contradicts the admonitions of a generation of economists, including those associated with the Commission and with AT&T.

4. Third, I respond to AT&T 's claims that the observed price reduction in special access is due primarily to customer migrations to higher-capacity, lower-priced special access services, rather than to price reductions and customer migrations to discount

contracts. If AT&T were correct, the prices of individual services (such as DS1 or DS3) would not fall, but Verizon has shown that for a single service (DS1), price reductions and migrations to discounts and term and volume contracts did result in significant price reductions during the price flexibility period. As a result, the observed shift in demand towards high-capacity services cannot account for the reduction in average revenue per voice grade equivalent.

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I. Introduction and Background

5. My name is William E. Taylor. I am Senior Vice President of National Economic Research Associates, Inc., head of its Communications Practice, and head of its Boston office located at 200 Clarendon Street, Boston, Massachusetts 02116. I filed a declaration in this Docket on October 4, 2004, which listed my credentials.[1]

6. I have been asked by Verizon to respond to economic allegations made by AT&T regarding my analysis of special access prices and services. In particular, AT&T claims that the fact that average special access revenue per voice grade equivalent ("VGE") fell does not imply that prices have fallen but "tell[s] a quite different story:" (i) that regulation and price caps contributed to the reduction, (ii) that cost reductions and earnings increases took place and (iii) that a shift in the mix of services towards high capacity services having a lower price per VGE explains the reduction in average revenue per VGE. None of these explanations is correct.

7. In this Reply Declaration, I address these three alleged shortcomings of my average revenue per VGE analysis. In addition, I use Verizon DSL revenue data for 2002 and 2003 to eliminate the problem—identified in my previous Declaration and in my 2002

[1] Declaration of William E. Taylor on Behalf of Verizon, *In the Matter of Unbundled Access to Network Elements and Review of the Section 251 Unbundling Obligations of Incumbent Local Exchange Carriers* (WC Docket No. 04-313, CC Docket No. 01-338), October 4, 2004.

Declaration with Dr. Kahn[2]—that ARMIS data includes DSL revenue but not DSL lines, thus overstating the growth in revenue per line during periods when DSL revenue was growing rapidly.

II. Removing DSL Revenue from ARMIS Special Access Revenue

8. I took ARMIS data on DSL revenue for Verizon for 2002 and 2003 from row 4012 of the ARMIS Report 43-04. I conservatively assumed that the annual growth rate for those years applied to all previous years.[3] I then subtracted these DSL revenues from ARMIS special access revenue and divided the difference by VGEs. The results are shown in Table 1, where both nominal (current dollar) and real (constant dollar) annual growth rates are calculated for the periods before and after special access pricing flexibility began.[4]

TABLE 1
VERIZON SPECIAL ACCESS REVENUE PER LINE

		Nominal Annual Growth	Real Annual Growth
All Data 1996 – 2003	Previous	-9.9%	-12.0%
	Excl DSL	-12.7%	-14.6%
Before Pricing Flexibility 1996-2000	Previous	-10.7%	-12.7%
	Excl DSL	-11.8%	-13.8%
During Pricing Flexibility 2001-2003	Previous	-11.7%	-13.4%
	Excl DSL	-20.7%	-22.2%

9. Removing the DSL revenue from the ARMIS special access revenue corrects the problem noted in my previous Declaration in this docket and my 2002 Declaration with

[2] Declaration of Alfred E. Kahn and William E. Taylor on Behalf of BellSouth Corporation, Qwest Corporation, SBC Communications, Inc., and Verizon, *In the Matter of AT&T Corp. Petition for Rulemaking to Reform Regulation of Incumbent Local Exchange Carrier Rates for Interstate Special Access Services* (RM No. 10593, December 2, 2002) ("*Kahn-Taylor Declaration*").

[3] The assumption is conservative because (i) DSL is a new service, and annual growth rates would be expected to fall over time and (ii) overstating DSL revenue in the early years has the effect of reducing special access revenue in the early years, which increases its rate of growth over time. In addition, DSL revenue was $0 before 1998 because Verizon did not provide the service. DSL revenue was also set to $0 for 2001 because merger conditions required that it be provided through an affiliate and little or no DSL revenue was reported in ARMIS that year.

[4] "Nominal" revenue per line is measured in current dollars and thus includes the effects of inflation. "Real" revenue per line is measured in constant (1982-1984) dollars which removes the effects of inflation—as measured by the Bureau of Labor Statistics Consumer Price Index —from the numbers.

Professor Kahn: that DSL revenue is included in the ARMIS reports as special access revenue, but DSL lines are not included in the ARMIS reports as special access lines. Since DSL revenue and lines have been growing rapidly, including DSL revenue but omitting DSL lines overstates special access revenue and overstates it more in recent years. This overstatement has the effect of understating the rate of reduction of average revenue per line. Excluding DSL revenue then has the expected effects: average revenue per VGE falls faster with DSL revenue excluded and the difference is greater in the later period when DSL revenue is larger.

III. AT&T's Criticisms of Average Revenue per VGE are Unfounded

10. AT&T (at 107-108) offers three arguments why the Commission should not accept the reduction in average revenue per VGE as evidence of price reductions. Each of these arguments is incorrect.

A. Average revenue per VGE declined faster under pricing flexibility

11. First, AT&T claims that the reductions in price were a result of price cap regulation and predated pricing flexibility in 2002. In fact, between 1996 and 2001, average revenue per VGE fell faster than required by the price cap regime. Moreover, as shown in my previous Declaration, average revenue per VGE fell significantly faster after 2001 than before.

12. The data shown above in Table 1 contradict AT&T's claims. First, the 13.8% real annual reduction in average revenue per VGE before pricing flexibility began for special access (1996-2000) far exceeds the maximum real rate reduction imposed by price cap regulation (6.5% at the end of the period). Thus, even during the price cap period, the annual price cap real rate reductions were not large enough to account for the observed reductions in average revenue per VGE. Second, the data in Table 1—as well as the data in Table 1 of my previous Declaration—show clearly that average revenue per VGE fell much faster in the 2001-2003 period (when special access pricing flexibility was available) than during the 1996-2000 period before pricing flexibility was available.

13. Thus, the explanation for the observed decline in average revenue per VGE is not price cap regulation.

B. Fully distributed costs and accounting earnings cannot be used to assess prices

14. AT&T (at 107) cites its previous assertions that the average revenue per VGE analysis ignores the fact that average expense per line has fallen and that "the Bells' net return, on a DS0 equivalent basis, [has] increased enormously." That this claim has any bearing on the level of Verizon's special access prices is economic nonsense, as Dr. Kahn and I pointed out almost two years ago:[5]

> This is a truly outrageous claim, relying as it does on measures of fully allocated book costs of services whose production in common with others entails a very high proportion of fixed and common costs and significant economies of scope—all the more so coming from a company and specific witnesses who have consistently and correctly decried the basis for such claims in economic terms for many decades...
>
> High or increasing rates of return calculated using regulatory cost assignments for interstate special access services do not in themselves indicate excessive economic earnings reflecting the exercise of market power. Indeed, regulatory rates of return for geographic subsets of single services in multi-product, multi-geographic firms bear no relationship with economic profits and thus can serve no useful purpose in determining whether pricing flexibility has or has not been excessively permissive. ILECs are integrated multi-regional firms and rely on an integrated regional management structure employing the regional physical and human resources to provide a multiplicity of services. The cost allocations required render such a calculation meaningless. ...
>
> The regulatory expedient of assigning fixed costs among categories (e.g., between regulated and unregulated or between interstate and intrastate jurisdictions), in proportion to variable costs or demand volumes, though "reasonable," is not cost-causative, and the resulting costs are not economic costs. It might be equally reasonable to allocate railroad overhead costs to services by volume, weight or value, but shippers of feathers, coal and diamonds would undoubtedly disagree about the results. In Dr. Willig's prophetic words some 15 years ago,
>
> > Fully allocated cost figures and the corresponding rate of return numbers simply have zero economic content. They cannot pretend to constitute approximations to *anything*. The "reasonableness" of the basis of allocation selected makes absolutely no difference except to the success of the advocates

[5] *Kahn-Taylor Declaration* at 7-9.

> of the figures in deluding others (and perhaps themselves) about the defensibility of the numbers. There just can be no excuse for continued use of such an essentially random, or, rather, fully manipulable calculation process as a basis for vital economic decisions by regulators.[6]

15. Moreover, AT&T's use of accounting earnings here contradicts its previous filings with regulators when asking for regulatory relief for its long distance services. In Massachusetts, AT&T argued that it

> ... is an integrated, multijurisdictional company providing telecommunications services worldwide using an integrated national management structure and employing the same physical and human resources to provide international, interstate and intrastate services. Because AT&T's services used the same network, computers and other facilities whatever the jurisdiction, determining a cost basis for calculating an economically meaningful rate of return is impossible. Rationally determining the cost basis for purposes of pricing individual state subsets of those services is also an economically impossible task. Yet, Massachusetts ROR regulation requires that a fully-allocated cost basis be established and that the prices for AT&T's intrastate services be modified to reflect such cost allocations. Allocating AT&T's multistate costs to determine AT&T's Massachusetts costs, further allocating those costs between interstate and intrastate services, and yet further allocating the intrastate costs among numerous intrastate services is economically irrational as a basis for setting prices. There is no rational basis for believing that rates based on fully allocated costs are either fair or economically justified.[7]

It is just as "economically irrational" to use accounting earnings and fully distributed costs to assess special access prices as to assess long distance prices.

16. Before the FCC, AT&T addressed assertions of high and increasing price-cost margins in long distance with the argument that "[w]ith respect to the increase in the price-cost margin, ... it should be expected that prices would be above marginal cost in a

[6] W. J. Baumol, M. F. Koehn and R.D. Willig, "How Arbitrary is 'Arbitrary'? – or, Toward the Deserved Demise of Full Cost Allocation," *Public Utilities Fortnightly*, Vol. 120, No. 5, September 3, 1987 at 21.
[7] Initial Brief of AT&T Communications of New England, Inc., dated April 23, 1992, in the Commonwealth of Massachusetts Department of Public Utilities proceeding DPU 91-79, at 42-43. Citations omitted. Quoted in *Kahn-Taylor Declaration* at 8.

market with high fixed costs."[8] The technology of special access loops and transport is certainly as subject to "high fixed costs" as that of long distance. AT&T's (correct) explanation of high and increasing price-cost margins in the long distance market is thus at odds with its complaints in the current proceeding about special access accounting costs and price-cost margins.

C. The shift in the mix of special access services does not account for the reduction in average revenue per VGE

17. AT&T claims (at 107-108) that examining average revenue per VGE "is fundamentally misleading," because any change in average revenue per VGE is "likely due principally to a changing mix of services," from lower to (relatively cheaper) higher capacity services.

18. First, measuring changes in average revenue per line on a DS0 equivalent basis is hardly "misleading" as evidence of price reductions. For years, AT&T argued that reductions in its average revenue per minute constituted price reductions for long distance for the purposes of (i) assessing competition to support its non-dominance petition and (ii) asserting that it had passed through carrier access charge reductions by lowering prices.[9] These arguments sharply contradict AT&T's claims in the current case.

19. Surely if reductions in average revenue per minute in the long distance market imply that prices have decreased, then a more dramatic drop in average revenue per VGE in the special access market must do the same. In the long distance markets, competition led to increases in base rates, similar to those of which AT&T complains today in the special access markets. However, in special access—as in long distance—these base rate increases were offset by a proliferation of volume and term discount plans that had the effect of reducing carriers' average revenue per minute. The fact that some special access tariff rates have risen while term and volume discount plans have caused average revenue per VGE to fall is not an unprecedented event.

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[8] In re: *Motion of AT&T Corp. to be Reclassified as a Non-Dominant Carrier*, Order, released October 23, 1995 at ¶ 76 (footnotes omitted).
[9] *Ibid.*

20. In any event, lower average revenue per VGE represents a lower price that the special access customer pays for the VGE whether or not (i) the carrier has actually reduced the price of some service or introduced a new term and volume discount plan or (ii) the customer has chosen a higher capacity service at a lower price per VGE. If competition or additional consumer choice brings about lower average revenue per VGE for any of these reasons, consumers are better off.

21. Second, there is supporting evidence that contradicts AT&T's claim that the reduction in average revenue per VGE can be attributed principally to a shift in the mix of services purchased. In its initial filing in this proceeding, Verizon undertook such a study for its DS1 service, the service for which AT&T claims (at 106) that prices have increased under pricing flexibility.[10] The Verizon study calculated revenue from DS1 channel terminations, channel mileage and all other rate elements, summed those revenues and divided the sum by the number of DS1 channel terminations. The resulting average revenue per DS1 channel termination fell at an annual rate of about 4.1 percent between January 2001 and April 2004. In real (inflation-adjusted) terms, DS1 prices fell at an annual rate of 6.5 percent. These reduction include the effects of price changes and the migration of customers between tariffed services and volume and term discount contracts, but they do not include any effect of migration to higher-capacity services. As AT&T observed in its Comments (at 108) in criticizing the average revenue per VGE measure, the "more appropriate comparison, however, is to compare rates for the same service." Verizon has done exactly that.

22. Finally, AT&T's criticism that the declining average revenue per VGE is "likely due principally" to the change in the mix of services is pure speculation. In theory, a shift in the mix of services towards higher-capacity, lower price per VGE services would have the effect of lowering average revenue per minute, but AT&T presents no evidence regarding the *magnitude* of the shift towards high capacity services or the effect of that shift on average revenue per VGE.

[10] Declaration of Judith K. Verses, Ronald H. Lataille, Marion C. Jordan and Lynelle J. Reney, at ¶ 61.

23. In fact, Verizon data imply that the magnitude of the shift towards high capacity services is small. Table 2 shows the change in the distribution of Verizon special access channel terminations (measured in VGEs) across bandwidths from January 2002 to September 2004.

TABLE 2
VERIZON SPECIAL ACCESS DEMAND SHIFTS

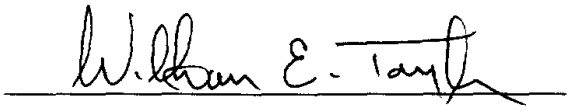
	JAN-02	SEPT-04
DS0-DS1	25.7%	21.9%
DS3-OCn	74.3%	78.1%

The effect of this change is modest, compared with the 21 percent annual drop in average revenue per VGE. If DS3-OCn services were priced at one-tenth that of DS0-DS1 services, the effect of the shift to cheaper services would be a reduction of about 4.0 percent per year in average revenue per VGE. A quick calculation shows that no matter how much cheaper per VGE the higher capacity services might be, the consequential reduction in average revenue per VGE can be no more than 5.9 percent per year. AT&T's unquantified assertion that the observed 21 percent annual reduction in average revenue per VGE is due "principally" to the shift in demand rather than reductions in price is not correct. More to the point, the drop in average revenue per VGE is utterly inconsistent with AT&T's picture of rampant price increases during the price flexibility period, notwithstanding the shift in demand to higher-capacity services.

24. This concludes my declaration.

I declare under penalty of perjury under the laws of the United States of America that the foregoing is true and correct.

Executed on October 15, 2004



Dr. William E. Taylor
NERA

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Unbundled Access to Network Elements	WC Docket No. 04-313
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REPLY DECLARATION OF ROBERT F. PILGRIM

1. My name is Robert Pilgrim. I serve as Vice President, Network Provisioning, for Verizon. In that capacity, I am responsible for the design and assignment of private line services, and for the assignment of cable facilities for switched and private line services.

2. I have more than 24 years of experience in the telecommunications industry in a variety of engineering positions. My educational background includes a Master of Science degree in Telecommunications Management from Polytechnic University. In addition to my experience in Engineering assignments, I have also held positions of responsibility in the areas of Technical Support, Operations, and Process Assurance.

3. The purpose of this declaration is to describe how carriers typically deploy metropolitan fiber networks to serve enterprise customers, and to explain the capabilities of those networks. In particular, as described in more detail below, I explain that fiber networks are highly scalable and that carriers generally channelize the signal riding over the fiber to serve

various levels of demand, including demand for DS1s and DS3s, by individual customers. Furthermore, competitive carriers rarely have to build their own underground conduit to run their fiber network or to make lateral connections from their network to a customer's premises, or to connect collocation points at different ILEC wire centers; instead, they can lease fiber from another carrier or run their own fiber cables through existing utility conduits at much lower cost.

4. Incumbent and competitive carriers alike began deploying fiber networks in metropolitan areas more than two decades ago. Today, electronics are usually applied to these networks to create ring architectures. This kind of network design is popular because it improves survivability of service by allowing communications to continue over the network even if the ring is damaged or severed at one point along the ring. Such networks are typically designed not only to connect places where traffic is aggregated (for example, the central offices of incumbent local exchange carriers or the local points of presence for interexchange carriers) but also to pass office buildings that are likely to house enterprise customers.

5. When a carrier deploys a fiber ring, it typically installs "break out" or "splice" points so that the carrier can extend lateral connections to new points of traffic aggregation as they develop. In Verizon's experience, these splice points are never spaced equally around the network and may even be adjacent to one another in a single manhole. In densely populated areas, every manhole, or every other manhole, can have a splice point – and manholes in downtown areas can be as close as 200 feet apart or even closer (*e.g.*, when two manholes are located across the street from one another). There is, in general, no technical reason to leave as much as 2,000 feet between splice points, as some CLECs have suggested.

6. Fiber is often produced in ribbons, each of which contains 12 fiber strands. These ribbons are bundled together to form cables consisting of up to 432 strands, and in rare cases

even more. In Verizon's network, it is customary to use 4 strands to serve each customer location, or to connect with other fiber networks: two to provide service (one for sending and one for receiving), and two so-called "protect" fibers to be used as backup in the event of a problem with the service fibers (or the electronics attached to them). Accordingly, a single 432-strand cable can provide up to 108 protected connections.

7. The cost of deploying fiber cables does not vary much with the number of strands per cable. Consequently, it is often efficient to deploy a cable with more strands than will be immediately used, in order to anticipate and accommodate reasonable, foreseeable future growth. The unlit strands terminated at a fiber distribution panel are referred to as "dark fiber." Dark fiber is rarely if ever deployed on its own: fiber cables are deployed when there is a sound business reason for doing so such as opportunity to earn revenue or to provide capacity relief in the interoffice network. Nor is dark fiber deployed with the intention that it remain dark; it is deployed so that it will be available to be lit as demand increases.

8. If CLECs, however, are permitted to lease that dark fiber as UNEs, then any dark fiber they do lease will not be available for its intended purpose — to fill anticipated demand on the ILECs' networks to serve the ILECs' customers. Therefore, when that anticipated demand actually arises, ILECs will have to deploy *additional* fiber to meet that demand. The net result of mandatory unbundling of dark fiber, therefore, is that the cost of fiber deployment will be shifted from CLECs to ILECs, even though, as the Commission found, ILECs have no particular cost advantage over CLECs in the deployment of next-generation networks. *See Triennial Review Order* ¶ 240.

9. Wherever competing carriers have deployed fiber they are capable of and are offering that fiber to other carriers on a wholesale basis. A fiber system can be divided and

shared among multiple carriers using standardized, off-the-shelf electronics – for example, SONET add-drop multiplexers ("ADMs") and digital cross-connect systems ("DCS") – from a variety of vendors. Using equipment like this, a carrier can lease lit bandwidth to other carriers. Alternatively, it can provide dark fiber for other carriers to light with their own electronics. Different strands of the same cable can be offered on a lit or dark basis.

10. Depending upon the electronics that are placed on the ends of the fiber strands, fiber infrastructure can be used to serve a great variety of customers with different bandwidth and capability needs. At the upper end, commercially available multiplexing equipment allows speeds of OC192 (representing 9.95 Gbps, the equivalent of 5,376 DS1 lines). In addition, commercially available Dense Wave Division Multiplexing ("DWDM") equipment allows a single optical signal to be separated into at least 32 usable individual wavelengths, thus potentially turning an OC192 fiber into the equivalent of 172,032 DS1 lines or more. At the lower end, digital loop carrier equipment placed on the end of the fiber makes it possible to carry multiple channels of DS0 traffic and to support the backbone throughput required for lower speed broadband data services like DSL. Relatively inexpensive multiplexers (with prices starting at less than $4,000) from a variety of manufacturers can divide the signal riding over the fiber into multiple DS1 or DS3 channels, so channelization of the signal into multiple separate DS1s or DS3s is commonplace. As a result, wherever fiber is available or can be deployed, DS1s and DS3s are available or can be deployed.

11. Some CLECs have asserted that it is not economical to provision DS1 and DS3 loops over their own fiber networks, but their complaints focus less on the cost of multiplexing equipment than on the cost of providing a lateral connection between the customer to be served

and the CLEC's metropolitan fiber ring. For instance, AT&T has asserted (at pages 34-35 of its Comments):

> In the vast majority of cases, the competitive carrier must extend a fiber lateral to the location in an underground conduit. The conduit is by far the most expensive aspect of outside plant cost. The conduit cost is driven by the cost of opening a trench, placing and stabilizing the conduit, and then closing the trench.

12. Although it is true that actually building new conduit may be expensive, AT&T's argument overlooks two key facts: (1) existing conduits can be leased in most deployment situations, and (2) in those rare cases where existing conduits are full, the cost of building a new conduit is the same for incumbents as for competitors.

13. When determining how to serve a new enterprise customer, a competent engineer would begin by checking on what spare capacity is available leading to the customer premises. If spare fiber in the desired location exists and is available for use, then lighting those existing fiber strands is likely to be the most cost-effective service option. The cost of lighting fiber in this way with multiplexers capable of providing DS1 or DS3 subunits represents a small fraction of the cost of building, for example, half a mile of new underground conduit. Some companies, such as Fibertech and Level 3, have become specialists in deploying fiber and leasing it to carriers, including both CLECs and ILECs.

14. If no spare fiber is available, then it may be necessary to deploy new fiber, but it is almost always possible to use existing conduits to do so, rather than to build new conduits. Incumbent LECs, competitive LECs, power companies and other utilities, and municipalities may all have structure such as poles and conduits to a given customer location. Space in Verizon's underground ducts, for instance, is available to competitors at regulated rates ranging from approximately $0.50 to $1.00 per foot per year – a tiny fraction of the $125,000 per mile

cost AT&T purports to use in its calculations. Verizon has leased nearly **[PROPRIETARY BEGIN]** **[PROPRIETARY END]** of underground conduit space, including approximately **[PROPRIETARY BEGIN]** **[PROPRIETARY END]** to cable television companies, who use such conduits to provide near-ubiquitous coverage, and approximately **[PROPRIETARY BEGIN]** **[PROPRIETARY END]** to competitive LECs and other telecom companies, who do likewise. In addition, Verizon has leased nearly **[PROPRIETARY BEGIN]** **[PROPRIETARY END]** pole attachments, at regulated rates of approximately $2.00 to $10.00 each, and these attachments provide another cost-effective option for competitors to deploy fiber to their customers.

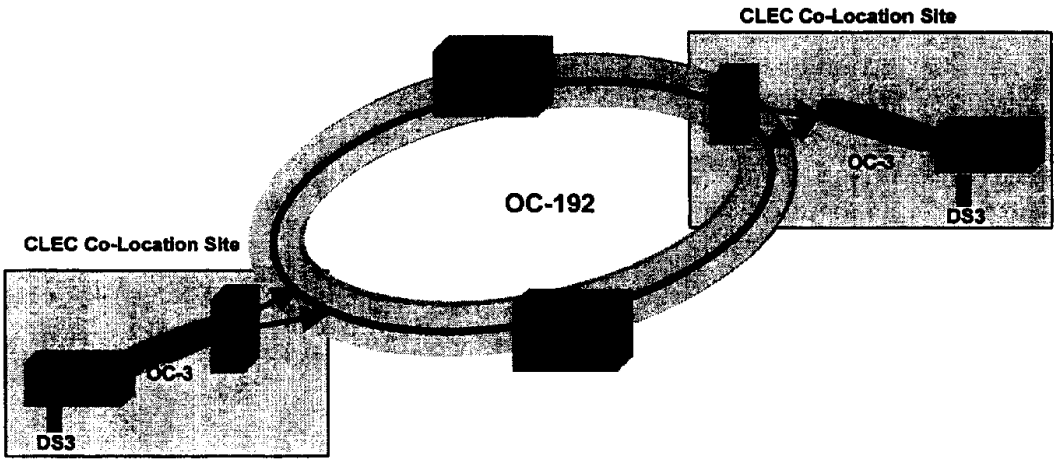
15. Only in the rare case when no existing fiber is in place and no conduit or other structure for new fiber is available from any utility or other source would a carrier be obliged to consider building its own underground conduit. The suggestion by AT&T or other CLECs that they must routinely dig their own trenches to deploy lateral fiber links is a gross exaggeration that dramatically overstates the typical cost of deploying lateral fiber to customer premises. Furthermore, in those rare cases when all existing conduits are full or otherwise unavailable, and a new conduit must be built, incumbent LECs would have to go through the same steps and incur the same costs as a competitor in order to build new conduit.

16. AT&T also assumes completely unnecessary conduit costs when estimating the expense of connecting two ILEC wire centers. For example, AT&T offers a declaration by Anthony Fea and Anthony Giovannuci in which it is argued that a CLEC would face a cost of $1.25 million to build 10 miles of conduit connecting to AT&T's collocated equipment in two ILEC wire centers. Giovannuci Decl. ¶ 28. Messrs. Fea and Giovannuci conveniently assume

that the ILEC's existing circuits between the two wire centers are operating at only 30% capacity so that the ILEC could absorb the CLEC's traffic "without a single dollar of additional investment," *id.*, but they acknowledge that if the ILEC's circuits were full, the cost of the multiplexing equipment would be the same for the ILEC as for the CLEC, *id.*

17. This analysis completely ignores two important, and much cheaper, options: First, the CLEC could run its fiber though the existing conduits that Messrs. Fea and Giovannuci assume already connect the two wire centers. Second, and even cheaper, the CLEC could connect the two wire centers over its own existing metropolitan fiber ring (or with leased capacity on someone else's ring). Either way, the assumed $1.25 million cost of digging 10 miles of trench and installing underground ducts is pure fantasy.

18. Indeed, Messrs. Fea and Giovannuci effectively concede that it is not necessary to dig 10 miles of trench when they acknowledge that many ILEC wire centers are already connected to AT&T's own metropolitan fiber network. Messrs. Fea and Giovannuci then go on to argue, implausibly, that "the mere fact that a CLEC may have a fiber-based collocation in two ILEC LSOs generally would *not* mean that a CLEC would find it viable to establish dedicated connections between those two LSOs." *Id.* ¶ 17. As a technical matter, however, there is no reason why traffic could not be routed over AT&T's network between two fiber-based collocations, as indicated in the diagram below. *See id.* ¶ 14 (describing AT&T metropolitan fiber ring architecture). To provide a dedicated connection between two points on a CLEC metropolitan fiber network an *actual* dedicated signal path can be created using a DCS machine or a manual cross-connection. Alternatively, a *virtual* dedicated pathway can be created using packet-switched technology such as ATM or frame relay.



19. Messrs. Fea and Giovannuci focus exclusively on creating an actual path with cross-connects and ignore the options offered by ATM, Frame, or packet switching. They also fail to acknowledge that the costs of connecting to a CLEC fiber ring or an ILEC fiber ring are likely to be the same, and their declaration provides no sound reason for foisting these costs on the incumbent. Moreover, as explained below, the supposed inefficiencies Messrs. Fea and Giovannuci claim to identify are an artifact of their own flawed assumptions.

20. As noted above, Messrs. Fea and Giovannuci assume that the ILEC's network is running at only 30% capacity and can costlessly absorb additional traffic. We could likewise assume that AT&T already has DS3 line cards in place that are underutilized and could be used to support additional interoffice traffic costlessly. Or we could assume, quite reasonably, that AT&T has some empty slots in its multiplexer and that, by adding a new DS3 card, it increases overall network efficiency by spreading the fixed costs of the multiplexer over a larger amount of traffic.

21. Naturally, Messrs. Fea and Giovannuci make other assumptions – and internally inconsistent assumptions at that. They assume that AT&T's network is operating at peak efficiency, with each multiplexer completely filled with OC48 and OC3 cards that are all fully loaded. *Id.* ¶¶ 18-19. (It is scarcely conceivable that AT&T would construct and then fully load with traffic a Metropolitan Fiber ring, with no intent or capability to add or drop traffic anywhere. One of the *purposes* of a Metropolitan Fiber Ring is to provide flexibility in adding and dropping traffic, so the assumptions are absurd.) They then suppose that one of the OC3 cards is removed and replaced with a DS3 card capable of carrying the same capacity. *Id.* ¶ 21. Yet suddenly, instead of being fully loaded, the card is used to support only one DS3. In their own words:

> Although the DS3 card inserted can terminate multiple DS3s (e.g., up to 12), if only one DS3 is served, the entire port capacity is still consumed for a single DS3. Thus, only one DS3 must bear the shared common costs of the ADM.

Id. Messrs. Fea and Giovannuci cannot have it both ways. If there is, in fact, an existing OC3 card in place, then either the OC3 card is highly loaded, in which case the DS3 card will also be highly loaded, or the OC3 card is only lightly loaded, in which case it is far more efficient to use a DS3 card and make more channels available for other uses. Or perhaps there is a third possibility: the OC3 card might have been fully loaded, but the traffic was re-routed to make room for the new DS3 card. In this scenario, too, the overall effect is a *more* efficient, rather than less efficient, use of the network, since the same facilities are being used to carry more traffic, and the channelization of the OC3 increases flexibility.

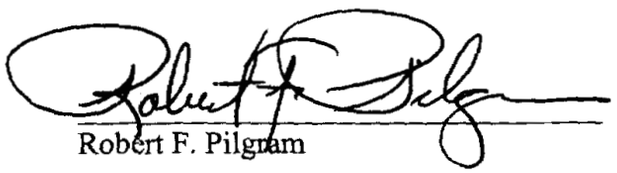
22. Finally, Messrs. Fea and Giovannuci point out, correctly, that in order to create a dedicated fiber connection, a DCS device "or a manual DSX3 cross-connection panel must be deployed in order to cross-connect the DS3 on one ADM to a DS3 port on another ADM at the

CLEC node." *Id.* ¶ 20. What they neglect to mention is that a DSX3 cross-connection panel is a low-tech device costing only a few hundred dollars.

23. In sum, AT&T and other CLECS wrongly assert that huge costs of building new conduit must be incurred whenever they wish to deploy new fiber loops or transport facilities. Once those artificial costs are removed from its calculations, and once the CLECs' ability to carry traffic over non-ILEC metropolitan fiber rings is taken into account, the relative ease in adding customers matches the fact that numerous carriers are extending their networks to accomplish this.

I hereby certify under penalty of perjury that the foregoing is true to the best of my knowledge, information, and belief.

Executed on October 19, 2004.



Robert F. Pilgram

Before the
FEDERAL COMMUNICATIONS COMMISSION
Washington, DC 20554

In the Matter of	
Unbundled Access to Network Elements	WC Docket No. 04-313
Review of the Section 251 Unbundling Obligations of Incumbent Local Exchange Carriers	CC Docket No. 01-338

REPLY DECLARATION OF CLAUDIA P. CUDDY

1. My name is Claudia P. Cuddy. I submitted a Declaration in this proceeding on October 4, 2004, in which I described Verizon's experience in obtaining high-capacity facilities to serve customers in 28 areas outside of Verizon's traditional franchise serving territory. My qualifications are set forth in my initial Declaration.

2. Various CLECs in their comments argue that they cannot readily use other CLEC facilities to provide high capacity loop and transport services to their business customers. As discussed in my initial Declaration, such claims are inconsistent with Verizon's experience as a competing carrier outside of our home service area where Verizon leases facilities, ranging from DS-1 access circuits through OC-192 entrance facilities, from other carriers to provide high capacity services to Verizon's end user business customers. In two-thirds of the Out-of-Region Areas where Verizon has selected a primary provider, Verizon selected competitive providers as the vendors from which it leases high capacity facilities for use to serve Verizon's own end user customers. *See* Initial Cuddy Declaration ¶ 21. All of these competitive providers highlighted their own facilities and their ability to provide access services on their own network.

3. Even when the carriers from which Verizon leases facilities supplement their own networks with ILEC facilities, they appear to use special access rather than unbundled network elements. In fact, at least one of these providers, **[BEGIN CLEC PROPRIETARY]** **[END CLEC PROPRIETARY]**, has made clear that it makes no use of unbundled elements anywhere. Others, such as **[BEGIN CLEC PROPRIETARY]** **[END CLEC PROPRIETARY]**, indicated that they could meet all of Verizon's service requirements on their own network. Smaller carriers, such as **[BEGIN CLEC PROPRIETARY]** **[END CLEC PROPRIETARY]**, discussed using a combination of facilities from ILECs and CLECs. **[BEGIN CLEC PROPRIETARY]** **[END CLEC PROPRIETARY]** was selected through an expedited bidding process and did not participate in Verizon's request for proposal process. But only a single carrier chosen as primary carrier by Verizon in a single location, **[BEGIN CLEC PROPRIETARY]** **[END CLEC PROPRIETARY]**, specifically indicated that it will use a combination of unbundled elements and special access facilities to supplement its own network.

4. Taken together, this means that Verizon believes that virtually all of Verizon's out of region needs will be met without any use of unbundled facilities.

5. To the extent the carriers from which Verizon leases facilities *outside* our region do use ILEC facilities, our experience *in-region* is that these carriers use special access rather than unbundled elements. Indeed, as explained immediately below, Verizon's experience in-region demonstrates that the use of UNEs by these competitive providers is miniscule.

6. As set forth in Exhibit 28 to the Lataille/Jordan/Slattery Reply Declaration (Attachment B), the use of unbundled DS-1 and DS-3 loops and transport by the competitive carriers Verizon selected, as compared to their use of special access services, ranges from

[BEGIN CLEC PROPRIETARY] **[END CLEC PROPRIETARY]** of all Verizon's DS-1 and DS-3 facilities used in Verizon's region. Even the percentage of unbundled network elements used in-region by the one provider that indicated it will use unbundled network elements for Verizon's out-of-region areas is only **[BEGIN CLEC PROPRIETARY]** **[END CLEC PROPRIETARY]**. *See* Lataille/Jordan/Slattery Reply Declaration ¶ 50 and Exhibit 28.

7. This concludes my declaration.

I hereby certify under penalty of perjury that the foregoing is true to the best of my knowledge, information, and belief.

Executed on October 19, 2004.

Claudia Cuddy